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Liquid Assets And Consumer Credit On The Household Balance Sheet

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LIQUID ASSETS AND CONSUMER CREDIT ON THE HOUSEHOLD BALANCE SHEET

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Abstract

In recent years, measures of household indebtedness based on consumer credit outstanding and income moved to levels that suggested a deterioration in the quality of credit outstanding based on consumers' ability to repay debt out of income. At the same time, liquid asset balances held by households were growing rapidly. But there was little evidence with regard to the extent to which consumer credit users held liquid assets. And the comparison of the after-tax cost of credit versus the after-tax return on liquid assets leads one to expect that credit users should not be holding excess liquid asset balances--balances exceeding what is required to meet emergency needs. The purpose of this analysis is to measure the liquid asset holdings of households using consumer credit.

The analysis revealed that in 1983 about 40 percent of credit-using households had sufficient liquid assets to totally repay their consumer

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credit balances. And consumer credit users, who represent 50 percent of total households, held about 35 percent of total liquid assets measured in the survey. These data suggest that policy makers may be mislead in their evaluations of the ability of households to service consumer debts by examining measures that only include current income. However, it is necessary to point out that, historically, consumers using credit did not think it was irrational to hold excess liquid assets at the same time. The fact that high-income consumers, who hold more in liquid assets relative to debts than low-income consumers do, are the source of much of the increase in credit demand in the last several years leads to the conclusion that, in fact, the quality of consumer credit portfolios may have improved rather than deteriorated as the debt to income measure increased [See: Dunkelberg and Worden].

As the fastest growing component of consumer credit outstanding has been unsecured revolving credit, attention in this study was directed to the liquid asset holdings of revolving credit users. Liquid asset balances exceeded, by a large margin, revolving credit balances for most revolving credit users.

In sum, households using consumer credit maintain significant liquid asset balances--to an extent that appears somewhat irrational from the view of the cost of consumer credit relative to the interest rate earned on liquid assets. Further analysis of factors related to the amount of liquid assets held by households using credit is necessary to understand this dimension of household financial management practices.

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The ability of a household to service its debts typically depends on the level and variability of current income flows in relation to payment obligations coming due. In addition, a household may judge its debt service capacity on the basis of the amount and liquidity of its financial assets. The purpose of this study is to investigate the extent to which households using consumer credit also hold liquid assets. The results of the following comparisons of stocks of consumer debts and liquid assets have implications concerning the quality of consumer credit portfolios and for financial management practices of households.

In the first part of the paper, the position of liquid assets in the household balance sheet is discussed. Trends in liquidity ratios for the household sector in the United States and evidence from survey data of debts and liquid assets in consumer balance sheets are presented. In the second part, survey data collected from a representative sample of U.S. households are analyzed, showing the extent to which borrowers in 1983 held liquid assets and in what relationship to their short-term indebtedness (which excluded mortgage debt currently due).[1] A separate analysis of liquid assets held by households with credit card balances is included

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[1] In some cases the loan balances outstanding may include the total interest due on the loan plus the principal while liquid assets do not reflect interest. This would cause the relationship between liquid assets and consumer credit to be biased downward.

here. In the last part of the paper, conclusions and implications of the analyses are presented.

I. Liquid Assets and Consumer Credit in the Financial Portfolio

Liquid financial assets are those that may be converted easily to cash with little if any price uncertainty. Liquid assets generally yield a low real rate of return but are held to meet emergency financial needs. Households are usually counseled to maintain liquid asset balances equal to between two and six months of after-tax income to cover living expenses in the event of unexpected interruptions in income or unexpected expenses.

The rate of return consumers can earn on liquid assets is normally lower than the unconstrained rate charged on consumer loans. Therefore, at the point in time when the decision to use credit is made, households have little economic incentive to borrow for consumption if they have sufficient balances to pay cash and still have liquid assets above some minimum "safety stock."[2]

The above decision rule assumes that consumers have perfect information about borrowing and lending rates. However, perfect information is not always available. For example, some creditors, namely those who are also selling the product being financed, can quote credit terms that disguise the effective rate being charged for credit. Consumers

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[2]With the Tax Reform Act of 1986 phasing out the deductibility of consumer interest, the cost of using consumer credit while holding sufficient liquid assets was increased significantly for high bracket individuals.

who cannot evaluate the effective cost of credit when some portion of their interest charge is subsumed in the price paid for commodities (goods and services) may use credit even though they hold liquid asset balances sufficient to pay cash.[3]

Consumers may have an incentive to borrow for consumption purposes instead of liquidating assets if their liquid assets have been invested in a multiple-period contract at a fixed rate and if market interest rates have subsequently declined substantially. In this case, borrowing costs might be less than the opportunity cost of liquidating the asset.

Finally, yields on some liquid asset accounts fluctuate with market rates whereas rates charged on various types of consumer loans may be limited by ceilings. Consequently, some borrowers may be able to earn an arbitrage profit that results from regulations in the borrowing and/or lending markets.

Once a consumer is past the decision point when a credit obligation is signed, terms of the contract might reduce the borrower's incentive to prepay. For example, if the interest on the loan is accrued by the Rule of 78s, the mathematics of this formula penalizes a borrower if he reduces his total interest payments by prepaying a portion of the outstanding balance. Under these circumstances, a borrower is better off to accumulate excess funds in a savings account until the balance is large enough to prepay the entire loan.

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[3]See Tobin [1956] for other explanations of why consumers might hold excess liquid asset balances at the same time they are using consumer credit.

A. Aggregate Balance Sheet Information

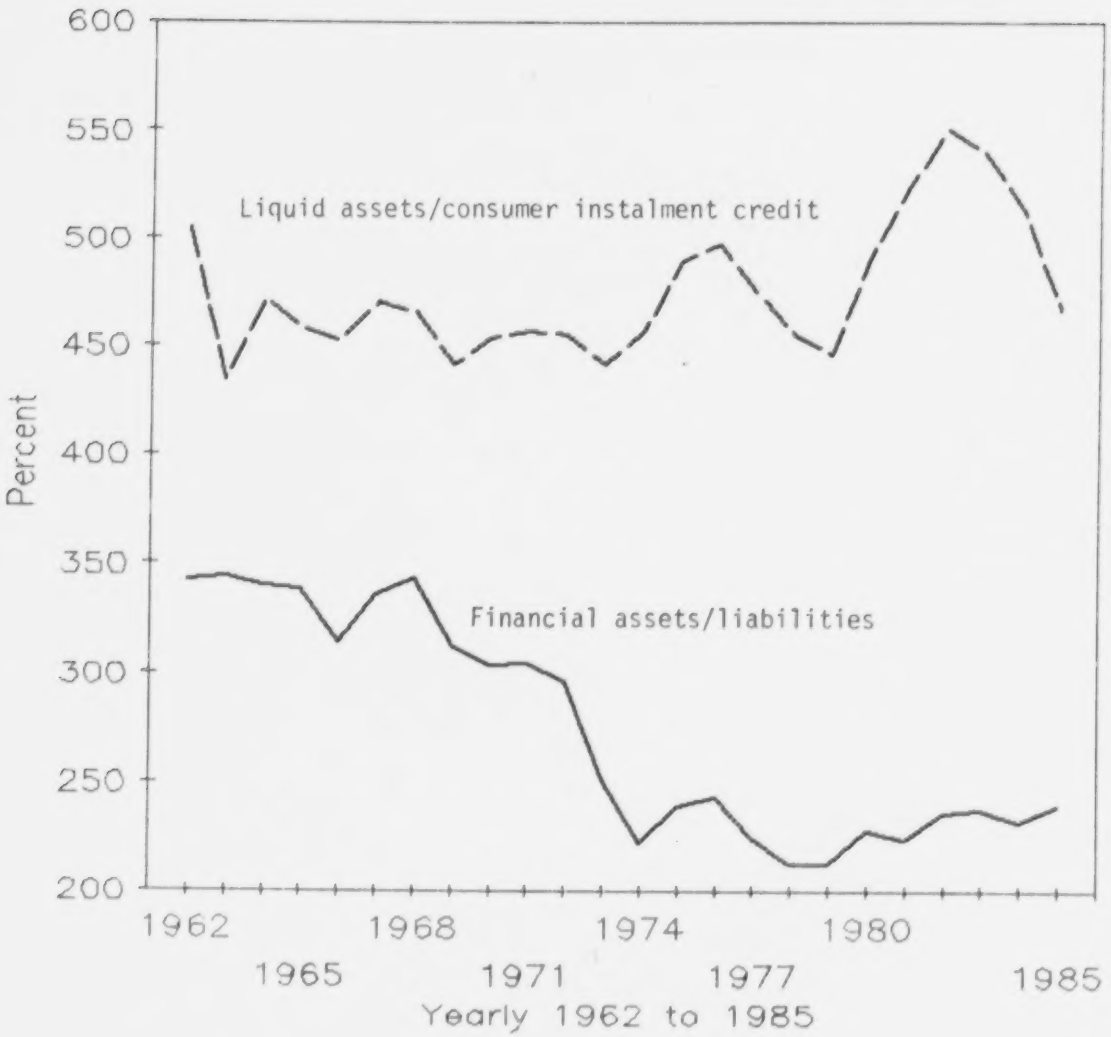
In response to high rates of inflation in the 1960s and 70s, all but the wealthiest households found it advantageous to save by substituting investments in housing and real estate in lieu of traditional financial vehicles (Kane, 1979). The effect of the shift from financial assets to real assets held by U.S. households is clear in the solid line in Exhibit 1. The ratio of financial assets to financial liabilities fell steadily between 1967 and 1974 from about 350 percent to about 225 percent. The aggregate ratio of financial assets to financial liabilities has remained virtually unchanged until 1986 when low interest rates increased the value of total financial assets relative to financial liabilities (not shown on chart).

The ratio of aggregate liquid assets to consumer instalment credit represents a "quick ratio" for the household sector, an indicator of the extent to which short term debts could be paid out of assets which could be converted easily to cash. Between 1963 and 1974, the aggregate relationship between liquid assets and consumer credit in the household sector was steady at about 450 percent. Then between 1979 and 1982, the measure spiked to 550 percent.

In 1983, when the cross-sectional data analyzed in this study were collected, households were holding more liquid assets relative to consumer debts than normal, as evidenced by the quick ratio. Since 1983 consumers have moved into less liquid assets, searching for higher yields on their savings. They have also saved less, investing more in durables that yielded a higher return than liquid assets. Additionally, maturities of

Exhibit 1

Financial Assets and Liabilities for Household Sector



NOTE: Liquid assets include transaction balances, all savings accounts, and U.S. government securities, but exclude other financial assets maturing within one year.

SOURCE: Flow of Funds, Board of Governors of the Federal Reserve System.

auto loan contracts have increased since 1983, enabling consumers to borrow more while keeping monthly debt service obligations low. Finally, consumers who use credit have increased the amount of consumer debt used as interest rate ceilings were abolished in many states.[4] These forces in combination caused the relationship between liquid assets and consumer debts in the aggregate household portfolio to return to a level close to the historical norm by the end of 1985. Therefore, this analysis does not provide a view of the ability of borrowing households to repay consumer debts by liquidating financial assets today. But the analysis does provide information about the financial management practices of debt-using households and the liquidity of households using credit cards for credit purposes.

B. Cross-Sectional Data

In 1983, a data base which contains a complete inventory of assets and liabilities of a representative national sample of 3,824 households was created. These data provide the opportunity to measure the cross-sectional relationship between liquid assets and consumer credit holdings for households using credit.

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[4]Sullivan and Worden (1986) found that the amount of credit relative to income used by households using credit was significantly lower in states with restrictive rate ceilings.

Consumer Credit Outstanding

In 1983, 51 percent of households had consumer credit balances outstanding equal to an average total balance of $5,253 (top panel of Exhibit 2). About one-fourth of households had an automobile loan, the average balance for which was $4,296. Twenty-six percent of households had a revolving balance on at least one credit card, with an average total revolving balance on all credit cards of less than $1,000.

Almost two-thirds of debt-using households reported total consumer credit outstanding of less than 20 percent of annual pretax income (bottom panel of Exhibit 2). At the other extreme, about 12 percent of debt-using households had total consumer credit obligations of 35 percent or more of annual pretax income.

Credit Use and Household Income

Consumer credit is a financial product used most heavily by high-income households. The probability of consumer credit indebtedness increases with annual pretax household income (Exhibit 3). And the bulk of consumer credit measured in the sample was owed by households in the highest income quintile. Forty-two percent of consumer credit outstanding was owed by the 20 percent of the sample with the highest income. Only 4 percent was owed by the 20 percent of the sample with the lowest income. On average, however, credit users in the lowest income quintile had higher debt burdens than those in the highest income quintile. Among indebted households, the average ratio of consumer credit outstanding relative to income was 26 percent for the lowest quintile and 14 percent for the highest quintile.

Exhibit 2

Types of Consumer Debt Outstanding, U.S. Households, 1983
(includes all respondents)

Type of Loan	Percent of Households With This Type of Debt	Average Balance
Automobile (1st loan)[1]	25%	$4,296
Home improvement (1st loan)	5	4,966
Other debt-regular payment (1st)	16	2,019
Other debt-regular payment (2nd)	3	1,163
Other debt-irregular payments	11	3,230
Credit card debt	26	905
Lines of credit (other than credit card)	10	3,565
Total consumer credit including credit cards[2]	51	5,253

[1]Five percent had a second automobile loan with an average balance of $2,965 and 1 percent had a third loan with an average balance of $3,642.

[2]Credit card balances of those who said they paid the entire balance every month were not included as debt.

Debt Burden Ratio
Consumer Debt Outstanding to Pretax Household Income

Ratio	(Percent of Sample)
0.0%	46.6
0.1 - 4.9	16.2
5.0 - 9.9	8.2
10.0 - 19.9	9.3
20.0 - 34.9	7.5
35.0 - 49.9	3.3
≥50.0	3.0
N.A.	5.9
	100.0%

SOURCE: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

Exhibit 3

Proportion of U.S. Households Using Consumer Instalment Debt in 1983* And Share of Total Consumer Debt, by Income Quintile in 1982**

Income Quintile				
Lowest	Second	Third	Fourth	Highest
A. Percent of households in quintile using consumer debt				
29%	49%	53%	60%	61%
B. Percentage of total consumer debt held by quintile				
4	11	17	26	42
C. Average ratio of consumer debt in 1983 to pretax income in 1982 (includes only households with consumer credit) (percent)				
26	18	16	16	14

*Figures include a measure of revolving credit card debt; the convenience use of credit cards is excluded.

**The income breaks for the quintiles were:

Lowest	$ 0 - 9,500
Second	9,501 - 17,090
Third	17,091 - 24,478
Fourth	24,479 - 35,462
Fifth	35,463 and up

SOURCE: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

Liquid Assets

Approximately 12 percent of all households in the survey held no liquid assets (Exhibit 4). Liquid assets included all transaction and savings account balances, balances held in money market funds, and U.S. government securities.[5] More than half of households with liquid assets had balances equal to less than 10 percent of annual income, probably those families whose only liquid asset was a transaction account. At the other end of the distribution, about 10 percent of the sample had liquid asset balances that were equal to 50 percent or more of annual pretax income.

Almost four out of five respondents had at least one checking account (average balance in all such accounts of $1,557). About three out of five had at least one savings account (average balance in all accounts of $2,139). About 14 percent of respondents had a money market fund or money market deposit account.

Liquid Assets and Household Income

Households in the lowest income quintile were the least likely to own liquid assets (Exhibit 5). The probability of having liquid assets increased with household income and households in the highest income quintile owned the bulk of liquid assets (50 percent) in this sample. In contrast, the lowest income quintile owned 4 percent of total liquid assets.

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[5] In other studies published elsewhere but based on the same 1983 Survey of Consumer Finances, liquid assets included IRA and Keogh accounts.

Exhibit 4

Types of Liquid Assets Held and Liquid Assets as Percent of Pretax Income of U.S. Households, 1983 (includes all respondents)

A. Liquid Assets of American Households

Type of Asset	Percent of Households Owning	Average Balance*
Checking account	79	$ 1,557
Savings account	62	2,139
Money market funds or accounts	14	1,614
Total liquid assets		5,980

B. Liquid Assets in 1983 to Pretax Household Income in 1982

Ratio (percent)	Percent of Sample
0	12.1
> 0 - 9.9	44.2
10.0 - 19.9	18.4
20.0 - 29.9	7.1
30.0 - 39.9	3.4
40.0 - 49.9	2.6
≥50.0	10.3
Missing	1.9
	100.0

*The average of total balances in all such accounts held by the household.

SOURCE: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

Exhibit 5

Proportion of Households With Liquid Assets and
Share of Total Liquid Assets and Income
By Income Quintile
(includes all respondents)

Income Quintile				
Lowest	Second	Third	Fourth	Highest
A. Percent of households with liquid assets in 1983				
64	85	92	97	99
B. Percentage of total liquid assets in sample held in 1983				
4	10	16	20	50
C. Percentage of total 1982 pretax income by quintile				
4	10	16	23	47

Liquid Assets and Consumer Credit

Approximately 35 percent of total liquid assets in the sample was held by the 50 percent of households that used consumer credit. Just as liquid assets and consumer credit balances are concentrated in the high-income households, high-income households that use credit had a great deal more ability to repay debts out of accumulated liquid assets than lower-income households (Exhibit 6). The average ratio of liquid assets to consumer credit ranged between 3.0 times for borrowers in the lowest income quintile up to 8.0 for those in the highest income quintile. These data disguise the fact that some borrowers have no liquid asset cushion. But the incidence of that declines dramatically with income (Panel B, Exhibit 6). One-third of borrowers in the lowest income quintile had no liquid assets. None of the borrowers in the highest income quintile had zero liquid assets. As more than 40 percent of consumer debt outstanding is held by those in the highest income quintile, we conclude that, on average, consumers that use larger amounts of consumer credit had some liquid asset cushion. In the next section we offer further analysis of the liquidity of borrowers.

II. Analysis of the Liquidity of Borrowers

The ratio of liquid assets to consumer credit may be suggestive of the borrowers' ability to repay debts in the event of an interruption in income. However, the ratio does have shortcomings. First, liquid asset balances are not perfectly liquid if there are substantial interest

penalties for early withdrawal. And, securities bought at a discount will not be redeemed at par except at maturity.

Additionally, consumer loans, especially auto loans, can have distant maturities which make the monthly payment obligations low. Therefore, for a given amount of debt outstanding, the borrower with the loan with a long maturity would need less in liquid assets to stay current on the loan during an interruption in income than the borrower with a loan with a shorter maturity. Alternatively, a debtor using revolving credit may have more flexibility to reduce monthly payments (if the borrower is not already making the minimum monthly payment) in the event of a decline in income than a borrower with the same amount of credit but from a closed-end loan. Thus, the former would need less liquid assets than the latter borrower, holding all other things constant. Further, a debtor with a mortgage obligation would need more in liquid assets than a renter, holding all other things constant, to stay current on consumer credit obligations in the event of income interruption. This is due to the fact that housing costs are probably paid first out of income and would be adjusted to a change in income more slowly for an owner versus a renter.

These shortcomings limit the analytical value of the ratio of liquid assets to consumer credit as a measure of the relative liquidity of household borrowers. In the following, the ratio is used simply to analyze the extent to which households simultaneously hold liquid assets and consumer credit and is related to other measures of credit quality.

Asset/Debt Group Definitions

Households in the sample with consumer credit outstanding were divided into three groups, as indicated below, on the basis of their liquid asset and consumer credit balances.

Group	Liquid Assets/Consumer Credit	Liquidity Status
I	0	No Liquidity
II	>0 $\leq$ 1	Low Liquidity
III	>1	High Liquidity

No Liquidity. Approximately 9 percent of debt-using households in the sample had zero liquid asset balances (Exhibit 6). The "No Liquidity" group held only 4 percent of instalment credit and 3 percent of revolving credit in the sample (Exhibit 7). The average income for the group was $13,330 and the average debt burden (outstanding debt/income) was 17 percent. The average amount of consumer credit owed by this group was $1,866.

The bulk of instalment credit used by the low liquidity group was obtained from retailers, contractors, or auto finance companies (Exhibit 8). And 90 percent of the credit used by this group was instalment credit with only 10 percent being from open-end credit contracts.

Low Liquidity. Approximately 53 percent of credit-using households in the sample held liquid asset balances equal to or less than the amount of total consumer credit owed. This group held 80 percent of consumer instalment credit outstanding and 65 percent of revolving credit

Exhibit 6

Liquid Assets and Consumer Credit in 1983
By Income Quintile in 1982
(included debt-using households only)

Income Quintile				
Lowest	Second	Third	Fourth	Highest
A. Average ratio of liquid assets to total consumer debt				
3.0	5.0	6.0	4.0	8.0
B. Percent of debt-using households with zero liquid assets				
31	15	8	2	0

SOURCE: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

Exhibit 7

Financial Characteristics of Borrower Groups

Financial Characteristics	Groups		
	No Liquidity	Low Liquidity	High Liquidity
Percent of total debt users	8.9%	52.9%	38.2%
Avg. debt/income	17.0%	25.0%	7.0%
Mean debt outstanding	$1,866	$6,201	$1,873
Share of debt in sample	4%	79%	17%
Avg. monthly debt payments/ monthly income	16%	14%	6%
Avg. household income	$13,330	$27,041	$33,512
Share of total revolving credit in sample	3%	65%	32%
Share of total instalment debt in sample	4%	80%	16%
Percent of credit used that is instalment	90%	90%	79%

SOURCE: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

Exhibit 8

Type and Sources of Consumer Instalment Debt by Group

A. Distribution of Consumer Instalment Debt by Sources

Sources	Group I	Group II	Group III
Commercial bank	12	23	22
Savings institutions	<1	4	5
Credit union	4	13	20
Finance or small loan co.	5	5	<1
Retailer or contractor/dealer	46	24	22
Auto finance	17	12	11
Other sources	15	19	19
	100%	100%	100%

B. Distribution of Instalment Credit Across Groups

Commercial bank	2	82	16	100%
Savings institutions	1	81	18	100%
Credit union	1	77	22	100%
Finance or small loan co.	4	93	3	100%
Retailer or contractor/dealer	7	79	14	100%
Auto finance	5	80	15	100%
Other sources	4	79	17	100%
Total	4	80	16	100%

SOURCE: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

outstanding in the sample. Their average income was $27,041 and they had an average debt ratio of 25 percent. The average amount of consumer instalment credit owed by the low liquidity group was $6,201. Only 10 percent of consumer credit used by this group was revolving credit.

About one-half of instalment credit owed by the low liquidity group had been issued by commercial banks and retailers/contractors and dealers. The low liquidity group had obtained a smaller percentage of their instalment credit from auto finance companies, and were more likely to use credit from credit unions, than the zero liquidity group.

High Liquidity. About 38 percent of credit users had liquid asset balances that exceeded their total consumer credit obligations. This group had a low average debt burden (7 percent), owing little more consumer credit, on average, than the zero liquidity group but having a considerably higher average income.

Twenty-one percent of credit used by the high liquidity group was revolving credit. This group owed about 32 percent of total revolving credit outstanding and only 16 percent of instalment credit outstanding. The highly liquid group had obtained about 20 percent of their instalment credit from each of the following sources--banks, credit unions, and retailers/dealers.

This analysis of the liquid asset holdings of households using consumer instalment credit supports the conclusion that most credit users had some liquid assets. And, almost 40 percent of credit users had liquid assets with face amounts greater than their consumer debts. However, the

bulk of consumer credit outstanding was owed by households with liquid asset balances equal to only a portion of their total consumer debt obligation.

Historical Comparisons

Historically, a large percentage of households using consumer credit has maintained significant liquid asset balances. A 1959 study of personal debts and liquid assets showed that at a point in time 43 percent of households held both debt and liquid assets. One-third of debt-using households had sufficient liquid assets to repay all their outstanding consumer debts.[6] In 1967, over two-thirds of consumers responding to a questionnaire viewed the simultaneous use of consumer credit and holding of liquid assets as rational behavior.[7]

One of the expected effects of Truth in Lending legislation (1968) was that consumers would have better information about the cost of credit and would substitute cash payment for credit use when the rate differential for liquid assets and consumer credit suggested that such behavior was optimal. The present study sheds light on whether Truth in Lending had that effect on consumers' decisions. By historical standards, households using consumer credit were not less likely to hold liquid assets in 1983 but were more likely to do so. Of course, the aggregate ratio of liquid assets to consumer credit was very high in 1983 and perhaps the cross-sectional data

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[6]"1959 Survey of Consumer Finances," Federal Reserve Bulletin, 45 (July 1959), p. 721.

[7]George Katona et al., 1967 Survey of Consumer Finances, Ann Arbor Survey Research Center, University of Michigan, 1968, p. 145.

collected then reflect special circumstances of that period rather than a trend in household behavior.

One condition that could have made borrowers in 1983 more liquid (in terms of financial assets) than they might be today arose from the general restrictions on the availability of consumer credit in the several years before 1983 due to rate ceilings. The increase in availability of instalment credit since 1983 has probably resulted in putting more credit in the portfolios of consumers with less liquidity. Another factor influencing the high level of liquidity of borrowers in 1983 was the high available yields on liquid assets. Since 1983, those yields have declined, probably causing some liquid assets to be reinvested in more risky investment opportunities.

Liquidity Ratio and Other Indicators of Credit Quality

The liquid asset to debt measure increased with education, those having the least education also holding the least liquid assets relative to debt, on average. Education is positively associated with the marketability of human capital. However, households with a low education achievement level did not hold more liquid assets to insure themselves against the consequences of job loss.

Homeowners held more, on average, in liquid assets relative to consumer credit than renters. This result was expected, given the greater adverse consequences of income interruption for homeowners relative to those with less at stake in terms of financial investment in housing.

Finally, households who had been rejected for credit in the past held significantly less in liquid assets relative to consumer credit than households that had not been turned down. Perhaps a justification for borrowers' holdings of liquid assets is to insure their ability to access credit markets at reasonable rates. "The borrower with no liquid assets is willing to pay a high rate for credit," according to the 1972 Report of the National Commission for Consumer Credit.

III. The Liquidity of Credit Card Users

The rapid growth of consumer debt outstanding since the beginning of the current business cycle (November 1982) has been driven partially by the expansion of revolving credit. Some of that growth may be attributed to the increased use of multipurpose cards for convenience in transactions. But much of the increase has been attributed to deregulation of interest rates and the associated rapid increase in the availability of unsecured credit.

The risk of loss in a portfolio of unsecured credit may be particularly sensitive to the liquid asset cushion maintained by borrowers using unsecured credit. In the case of unsecured credit, the lender's claim is against the future income of the borrower. The debtor, in the event of a decline in income, has the flexibility to cut the amount of the monthly payment to the minimum payment required with credit cards if he or she is not already paying the minimum. Even so, the proceeds from liquid assets would also be needed to cover living expenses and service other debts.

Under the assumption that the borrower's liquid asset balances are an important determinant of the risk of an unsecured claim, the ratio of liquid asset balances to total outstanding revolving credit balances for all cardholders in the sample who reported that they used their credit cards as a source of credit (43 percent of cardholders) was calculated.[8]

Less than 4 percent of revolving cardholders held no liquid assets, as compared to 9 percent of credit users in general. This contrast suggests that credit card users in 1983 were of better average credit quality than credit users in general, a condition that has likely disappeared since 1983 (Exhibit 9). About 26 percent reported positive liquid asset balances that were less than their total revolving credit balances. One-third of revolvers owned liquid asset balances that were between one and nearly five times as large as their total revolving credit balances. Almost two of every five revolvers owned liquid asset balances that exceeded the level of credit card outstandings by a multiple of five or more.[9]

The average credit card balances revolved by those households with liquid assets less than their total credit card balances was $1,385. The average balances for the groups with the higher coverage ratios were $989 and $416 respectively. Given the high cost of revolving credit, it is not surprising that those borrowers with liquid assets use less of this type of

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[8]These data are not representative of the liquidity of cardholders but of the liquidity of revolvers. Canner and Cyrnak found that as the ratio of liquid assets to income increased, the probability that a household paid off its card balances each month increased.

[9]Tobin [1956] suggested that consumer insensitivity to borrowing costs could cause credit users to avoid depleting liquid assets by using credit.

Exhibit 9

Liquid Asset Balances Relative to Revolving Credit Balance
(in percent for revolvers only)

Liquid Assets/Revolving Credit (coverage ratio)	
No liquid assets	3.4%
> 0 < 100%	26.1
100 - 499%	32.8
500% or more	37.7
	100.0%

SOURCE: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

credit relative to those borrowers with no liquid assets. Forty-one percent of the total revolving credit in the sample was held by the approximately 30 percent of revolving cardholders who had very low or no liquid asset balances.[10]

Coverage Ratio and Credit Risk Characteristics

Creditworthiness is a multidimensional quality, not depending solely on the stated dollar value of income and financial assets which might be available to repay the lender. Therefore, other demographic and economic characteristics of the cardholders were analyzed. Revolving cardholders were separated into three groups on the basis of calculated coverage ratios. The separation was made to assess the extent to which cardholders with low liquid asset balances relative to credit card balances had other characteristics that would also suggest they were relatively more risky borrowers. In general, it appeared that cardholders with low coverage ratios were drawn from the high risk segment of the borrower population.

One indicator of the credit risk of a borrower is the amount of credit owed relative to income. For revolving cardholders, borrowers with liquid balances of less than their total credit card balances were more likely than other revolving credit users to have total consumer credit that exceeded 50 percent of pretax income--which, by standards of the total group (Exhibit 2), is a high debt ratio (Exhibit 10).

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[10]Most of the nonrevolvers indicated that their total outstanding credit balance on credit cards was zero. Therefore, we cannot generalize the 41 percent figure to national statistics for revolving credit outstanding because balances held by nonrevolvers are included in the latter.

Exhibit 10

Liquidity of Credit Card Holders
(in percent, for revolvers only)

Total Consumer Instalment Credit Pretax Household Income	Coverage Ratio <100%*	100-499%	>500%
< 20%	60.0	69.5	83.8
20-50%	31.7	24.2	13.8
> 50%	8.1	6.2	2.5
		x^2 = 46.54**	
Percent recently turned down for consumer credit	18.7	15.5	9.7
		x^2 = 12.33**	
Education of Household Head			
<High school	17.8	10.4	10.9
High school diploma and some college	38.6	33.1	37.8
College degree	43.6	56.4	51.2
		x^2 = 16.88**	
Income Quintile			
Lowest	8.9	5.7	4.2
Second	24.3	13.9	10.3
Third	21.7	23.1	22.2
Fourth	25.4	27.0	29.4
Highest	19.4	30.0	33.6
		x^2 = 38.93**	

* Includes those with zero liquid assets
**Significant at 95 percent level of confidence

SOURCE: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

Cardholders with the low coverage ratio were more likely to indicate that they had been turned down for consumer credit in the past few years than members of the other two groups. About 19 percent of cardholders in the lowest coverage group had been turned down for credit compared to about 10 percent of the group with the highest liquid assets to credit card balance ratio. For all credit users in the sample, the probability of having been turned down for credit recently was 16.8 percent.[11] The distribution of debt burden and turndown experience was significantly different across the three groups of cardholders.

Educational level is generally correlated with income and probably is correlated with a borrower's options in the event of a cutback in income. Education may also be related to the quality of medical and disability coverage that the borrower has (not considering credit insurance). The three groups of borrowers differed significantly in terms of education level attained. The low coverage group was more likely to have not finished high school; it was less likely to have a college degree relative to the other two groups.

As expected, the members of the group with the lowest coverage ratio were more likely to come from the two lowest income quintiles in the sample than were the cardholders with higher coverage ratios. Thirty-three percent of the low coverage group had annual household income below $17,090 (two lowest income quintiles) while only 19 and 14 percent, respectively, of the other two coverage groups fell into those income groupings.

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[11] 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

Coverage Ratio and Multiple Bank Card Ownership

One condition that has continued to change in the years since the survey data were collected is the availability of bank credit cards. In the 1983 survey few cardholders held more than two bank cards (6.8 percent). Today by contrast, a large contingent of households have two or more bank cards even though periodic membership fees have become more prevalent.

The data were analyzed to determine whether households with low liquid asset balances, relative to their total credit card outstandings, were more likely to hold two or more bank cards under the market conditions of 1983. The analysis showed that cardholders in the two lowest coverage groups were more likely to have more than one bank card in 1983 than those cardholders with high liquid asset balances relative to credit card debt. While only 36 percent of the group with the highest coverage ratio had two or more cards in 1983, 44 percent of each of the other two groups did so.

The credit card is ideally suited for households that find it difficult to save in advance for small purchases. The results of the analyses of credit risk characteristics suggest that such customers are high risk borrowers. That those cardholders may have accounted for much of the growth in revolving credit outstanding in the last three years may help to explain why lenders have not received more pressure from consumers to cut interest rates. These findings may also help to account for the dramatic growth in delinquencies and losses in bank card portfolios during recent years.

IV. Summary and Conclusions

This analysis of the liquid asset holdings of a sample of households using consumer credit revealed that about two in five borrowers had liquid assets balances that were greater than the total of consumer credit owed, and less than one in ten borrowers had zero liquid assets.[12] Most borrowers had some liquid assets but not enough to repay all debts. Highly liquid borrowers had a greater percentage of their total consumer credit in the form of revolving credit than less liquid borrowers. This suggests that the credit decision of highly liquid borrowers might have been based on convenience rather than a careful weighing of the cost of credit versus the opportunity cost of drawing down savings. Much of the instalment credit used by highly liquid borrowers came from banks and credit unions where such households might have had opportunities to borrow, using accumulated savings as collateral or to get a low price for credit because of a deposit relationship they had with the lender.

Turning to credit cardholders that revolve, 70 percent of households using the credit feature of credit cards in 1983 held enough accumulated liquid asset balances to pay off their accumulated credit card balances. The balance of revolvers owed more on their credit cards than they held in total liquid assets. Such revolvers had high debt burdens in general, were more likely than more-liquid revolvers to report that they had been turned down for credit in the recent past, and were more likely to have less than a high school education.

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[12] Note that mortgage credit and other liabilities currently due are excluded.

The results of this analysis of the liquid assets held by households using consumer credit have several policy implications. First, historically, a significant percentage of households using consumer credit have owned relatively large liquid asset balances. Despite the enactment of Truth in Lending legislation, a large contingent of borrowers in 1983 maintained liquid asset balances exceeding the amount they had borrowed for consumption purposes. Although it may not appear as economically rational behavior, many consumers apparently borrow money to avoid depleting accumulated liquid balances, especially if their credit needs are small.

Second, the credit card is priced as a source of credit to appeal to households with low liquidity who, as it turns out, also have high credit risk. However, most revolvers on credit cards are highly liquid relative to the amount owed on their cards. As yields on savings decline, the cost of revolving credit (assuming it does not decline with savings yields) for cardholders with liquid assets increases relative to their opportunity cost of drawing down liquid assets. Because a significant percentage of revolving credit is held by cardholders who are high risk, many lenders have been hesitant to cut rates charged on credit cards. Therefore, cardholders with ample liquid assets seek lower credit rates by engaging in more credit shopping or by supporting attempts to regulate rates. In the long run, the liquid borrower will not pay the same rate for credit that the borrower with no liquid assets is willing to pay. New products, segmentation strategies, or both will be developed by card issuers as the opportunity cost of drawing down liquid assets declines.

Finally, in discussions of the financial strength of households, many economists have viewed the increase in consumer credit outstanding relative to income with concern. Others have interpreted the high level of liquidity of the household balance sheet as a positive condition which should reduce concern about the ability of households to service its debts. But doubts were expressed about the overlap of borrowing households and households holding liquid assets. This analysis demonstrated that households using consumer credit frequently own large liquid asset balances (relative to credit owed). In fact, approximately 35 percent of liquid assets in this sample was held by the 50 percent of households that used consumer credit. Growth in credit outstanding that results from reducing credit standards is likely to put relatively more credit on the balance sheets of low liquidity households. Thus, the 1983 data probably are not a faultless indicator of credit quality in 1986. However, it is important to note that a relatively stable proportion, between 30-40 percent of consumer credit users, maintain liquid asset balances sufficient to totally repay their consumer debts. Thus, this analysis supports the view that the debt service capacity of households has improved as the aggregate liquidity of the household sector increased. Further analysis is needed to understand the relationship between the liquidity of borrowers and the types and terms of consumer credit used, what the effects of tax reform might be and the role liquid assets play in the credit shopping process.

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